

WHAT IS NEEDED IS:

1. A method for managing loops between network devices comprising:
establishing a media access control (MAC) move threshold;
5 monitoring MAC moves between ports;
comparing the MAC moves to the MAC move threshold; and
initiating a loop protection action if the MAC moves exceed the MAC move
threshold.
- 10 2. The method of claim 1 wherein establishing the MAC move threshold includes
identifying a number of MAC moves.
3. The method of claim 1 wherein establishing the MAC move threshold includes
identifying a number of MAC moves per unit of time.
- 15 4. The method of claim 3 wherein establishing the MAC move threshold includes
purposefully creating a loop between network devices and counting the number of MAC
moves per unit of time that are caused from the loop.
- 20 5. The method of claim 1 wherein initiating a loop protection action includes
blocking flows related to the MAC moves that have exceeded the MAC move threshold.
6. The method of claim 5 further including identifying ports that can be blocked if
the MAC move threshold is exceeded.
- 25 7. The method of claim 5 further including identifying virtual local area networks
(VLANs) that can be blocked if the MAC move threshold is exceeded.
8. The method of claim 7 wherein identifying VLANs that can be blocked includes
30 identifying one of a specific VLAN, a VLAN range, all VLANs, and all VLANs except
specified VLANs.

9. The method of claim 5 further including releasing the blocked flows upon the expiration of a pre-established time period.

10. The method of claim 1 wherein initiating a loop protection action includes
5 blocking only flows related to the MAC moves that have exceeded the MAC move threshold.

11. The method of claim 5 further including identifying blockable ports.

10 12. The method of claim 11 further including identifying blockable VLANs.

13. A method for managing loops between a customer network and a carrier network comprising:

establishing a media access control (MAC) move threshold;

monitoring the rate of MAC moves between ports of a carrier device that are
5 caused by customer traffic from a customer network, the carrier device being in a carrier network that receives traffic from the customer network;

comparing the rate of MAC moves at the carrier device to the MAC move
threshold; and

10 initiating a loop protection action at the carrier device if the rate of MAC moves exceeds the MAC move threshold.

14. The method of claim 13 wherein establishing the MAC move threshold includes identifying a number of MAC moves per unit of time.

15 15. The method of claim 14 wherein establishing the MAC move threshold includes purposefully creating a loop between customer and carrier networks and counting the number of MAC moves per unit of time that are caused from the loop.

16. The method of claim 13 wherein initiating a loop protection action includes
20 blocking flows related to the MAC moves that have exceeded the MAC move threshold, the flows being blocked at the carrier device.

17. The method of claim 16 further including identifying ports that can be blocked if the MAC move threshold is exceeded.

25

18. The method of claim 16 further including identifying VLANs that can be blocked if the MAC move threshold is exceeded.

19. The method of claim 18 wherein identifying VLANs that can be blocked includes
30 identifying one of a specific VLAN, a VLAN range, all VLANs, and all VLANs except specified VLANs.

20. The method of claim 16 further including releasing the blocked flows upon the expiration of a pre-established time period.

5 21. The method of claim 13 wherein initiating a loop protection action includes blocking only flows related to the MAC moves that have exceeded the MAC move threshold.

22. The method of claim 16 further including identifying blockable ports.

10

23. The method of claim 22 further including identifying blockable VLANs.

24. A system for managing loops between a customer network and a carrier network comprising:

means for establishing a media access control (MAC) move threshold;

means for monitoring the rate of MAC moves between ports of a carrier device that are caused by customer traffic from a customer network, the carrier device being in a carrier network that receives traffic from the customer network;

means for comparing the rate of MAC moves at the carrier device to the MAC move threshold; and

means for initiating a loop protection action at the carrier device if the rate of MAC moves exceeds the MAC move threshold.

25. The system of claim 24 wherein the means for establishing the MAC move threshold includes means for identifying a number of MAC moves per unit of time.

26. The system of claim 24 wherein the means for initiating a loop protection action includes means for blocking flows related to the MAC moves that have exceeded the MAC move threshold, the flows being blocked at the carrier device.

27. The system of claim 26 further including means for releasing the blocked flows upon the expiration of a pre-established time period.

28. A system for managing loops between a customer network and a carrier network comprising:

a loop management engine configured to establish a media access control (MAC) move threshold, to monitor the rate of MAC moves between ports of a carrier device that are caused by customer traffic from a customer network, the carrier device being in a carrier network that receives traffic from the customer network, to compare the rate of MAC moves at the carrier device to the MAC move threshold, and to initiate a loop protection action at the carrier device if the rate of MAC moves exceeds the MAC move threshold.

29. The system of claim 28 wherein the loop management system is further configured to establish the MAC move threshold includes means for identifying a number of MAC moves per unit of time.

30. The system of claim 28 wherein the loop management system is further configured to block flows related to the MAC moves that have exceeded the MAC move threshold, the flows being blocked at the carrier device.

31. The system of claim 30 wherein the loop management system is further configured to release the blocked flows upon the expiration of a pre-established time period.